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GENDER AND ENERGY: OPPORTUNITIES FOR ALL

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Introduction: Gender and Energy – Opportunities for All*

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Abstract The global drive to provide universal access to sustainable and modern energy by 2030 is creating numerous opportunities for energy users and suppliers. However, men and women do not benefit equally from these opportunities. As users, they have different energy needs linked to their different gender roles. Gender blindness in the sector has led to women's needs often being ignored. As suppliers, the energy sector has traditionally been male dominated. Despite stark gender differences in the energy sector, there has been a lack of evidence to inform more equitable policymaking. This issue of the *IDS Bulletin* aims to fill some of these evidence gaps through five original papers, part of ENERGIA's Gender and Energy Research Programme. The issue pays particular attention to women's involvement in the supply chain as energy entrepreneurs, an emerging area of research in the gender and energy space.

Keywords: gender, energy, development, entrepreneurship.

1 Introduction

Achieving the global goal to provide universal access to sustainable modern energy by 2030 (Sustainable Development Goal 7 – SDG 7) will require huge effort and great creativity. At the same time, universal access cannot be achieved without ensuring gender equality (SDG 5). The transformative insights of the last 20 years show that women's and men's energy needs differ, particularly for marginalised people in low-income countries. Furthermore, women's contribution to energy planning, supply, and policymaking is marginal, as the energy sector is heavily dominated by men. Universal energy access cannot be achieved without women being able to use the modern energy services they need. However, energy supply interventions have traditionally been gender blind. That is, they assume that the provision of modern energy services will automatically benefit both men and women. This error is compounded by the lack of gender-differentiated data on energy supply and demand.

This issue of the *IDS Bulletin* compiles a selection of articles on gender and energy, contributing to filling the evidence gap. The articles result

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from the Gender and Energy Research Programme, managed by ENERGIA and financed by the UK Department for International Development. ENERGIA is the International Network on Gender and Sustainable Energy, founded in 1996, with the goal of providing energy sector stakeholders with evidence and advocacy to improve the gender equality of their projects, programmes, and policies.

The Gender and Energy Research Programme ran for five years (2014–19), involving nine research teams, with 26 partners carrying out research in 12 countries in Africa and Asia. The aim of the programme was to create and analyse empirical evidence of the benefits of taking a gender approach in energy access interventions, and to translate this evidence into recommendations for energy policy and practice. The research programme delivered nine studies on the gender and energy nexus under the following thematic areas: electrification, productive use of energy, energy sector policy dynamics, energy subsidy reform, the role of the private sector in scaling up energy access, gender mainstreaming approaches, and global trends in gender and energy. The findings of all research projects are synthesised in a final report (ENERGIA 2019), as well as in final project reports which can be found on the ENERGIA website.[2]

2 Providing universal access to modern energy can bring opportunities for all

An overview of the literature on the gender and energy nexus shows that the initial aim was to make the case for a gender-differentiated approach to energy provision. It focused on the demand side, proving that women suffer disproportionately from the effects of energy poverty in their role as carers within the household (Parikh 1995). Cooking, for example, is a key topic in the literature about the gender–energy links because women have the responsibility to prepare family meals in virtually all countries in the world. They are also responsible for sourcing the energy required for the task, predominantly firewood or charcoal when modern energy is not available. As a result, they endure the drudgery of fuel collection and inefficient cooking and the health effects of indoor air pollution, thereby causing and perpetuating gender inequalities (Foell *et al.* 2011). But women's energy needs go far beyond cooking, as many other household tasks are gendered, such as water collection, pounding grain, washing clothes, and cleaning (Cecelski 2006). Researchers have also been very interested in analysing the effect of households' access to electricity on women's labour supply, concluding that women's labour time and income increase as electricity reduces household drudgery and improved lighting increases the length of the day, hence making more time available for other productive tasks (Pueyo and Maestre 2019).

The gendered dimension of energy supply and policymaking have until recently remained unexplored in the literature. This is despite the evidence that the energy sector is clearly dominated by men. For example, in the USA only 15 per cent of employees in oil and gas are women, and that number shrinks further for higher-paying

technical jobs (Mehnert 2019). IRENA (2019) estimates that women's participation in the renewable energy sector is higher than in the energy sector as a whole, employing about 32 per cent women, compared to 22 per cent in the energy sector overall. Still, it remains significantly smaller than men's participation and even smaller in jobs related to science, technology, engineering, and mathematics (STEM).

The exponential growth in renewable energy investment and the global drive towards universal access to modern energy are bringing enormous opportunities for workers and entrepreneurs in this sector. An estimated annual investment of US$4.4bn is required to provide clean cooking solutions to the 2.9 billion people yet without access. Universal electricity access requires an annual investment of US$51bn to reach the 840 million without coverage (SEforALL 2019). It is therefore imperative that research and practice in gender and energy move beyond men's and women's roles as users to look at their roles as policymakers and in the energy services supply chain, so that they equally shape and benefit from future energy systems.

While the existing literature on women's energy entrepreneurship is limited, it is growing, with a preponderance of grey literature informing policy and programmes (Dutta 2018). This issue of the *IDS Bulletin* aims at mitigating the lack of evidence on energy and gender in general and on gender and energy entrepreneurship in particular. The issue starts with an article setting the scene for the gender and energy nexus within global trends influencing progress and recession in global access. Three articles on gender and entrepreneurship constitute the core of the issue. The final article discusses doing research for influencing policy, drawing on ENERGIA's experience with the Gender and Energy Research Programme.

3 Contributions to this issue

The first article, by Rebecca Pearl-Martinez (this *IDS Bulletin*), sets the scene, identifying six global trends that could catalyse the closing of energy access gaps around the world and showing how these trends relate to gender inequality. Some of the trends positively support attaining universal access, namely: decentralisation of energy generation and distribution; rapidly declining renewable energy technology costs; proliferation of mobile connectivity; and increase of women's business ownership. Two other trends put universal access at risk: the increasing population in urban informal settlements and in humanitarian settlements.

The positive trend of women's entrepreneurship offers a particular opportunity to expand energy access by empowering women to reach those at the last mile. Expansion of decentralised energy supply could become a major source of income generation for women, especially at the base of the energy ladder but also further up the value chain. The article reflects on women's unique relationship with and understanding of female energy consumers, who are often the primary managers of

household energy. Some additional benefits of targeting women are that they are often a lower risk and repay loans more frequently than men, and that they reinvest more of their income than men in their families and communities. However, women face more constraints than men when creating and growing their businesses. The article hence makes the case that women's entrepreneurship requires support beyond the business realm for women's empowerment more generally.

The second article, by Anita Shankar, Amanda B. Elam, and Allie Glinski (this *IDS Bulletin*), takes forward this theme by carrying out a thorough literature review to gain a better understanding of how to support the larger ecosystem in which women's energy entrepreneurship resides. Drawing from recent theories of gender and entrepreneurship, the article concludes that as a result of traditional gender beliefs, women entrepreneurs face barriers in access to and mobilisation of five forms of capital: economic, social, time, cultural, and symbolic. It then makes the case for bundled services, targeting several of those constraints at once, such as access to finance and capital; access to coaches, mentors, and business networks; business education and skill development; training to foster personal agency, personal initiative, and entrepreneurial mindsets; and the inclusion of men within women's energy entrepreneurship programming. These diverse types of programme support can break the myth of female underperformance and address all forms of capital, including the legitimacy of women entrepreneurs.

The third article, by Manuel Barron, Rowan Philip Clarke, Amanda B. Elam, Rebecca A. Klege, Anita Shankar, and Martine Visser (this *IDS Bulletin*), delves deeper into the myth of female business underperformance, a crucial point of debate within the field of management studies. The article is an exploratory pilot for a wider randomised controlled trial in 272 villages in Rwanda comparing the business performance of women and men entrepreneurs selling solar lights. It challenges the underperformance hypothesis with empirical evidence showing that women outperform men in the sale of solar lights to the ultra-poor. The argument that women's engagement in the energy sector improves access and distribution of energy for those most underserved is therefore reinforced. Barron *et al*. provide a key contribution to the field, as no studies to date have compared the performance of female-led and male-led firms in a controlled research design where men and women sell the same products under the same terms and in the same cultural context. The findings are encouraging news for empowerment programmes aimed at promoting female entrepreneurship, showing that recruiting women is actually good for business. Nevertheless, and echoing the previous article by Shankar, Elam and Glinski (this *IDS Bulletin*), the authors recommend involving men in the process to avoid pushbacks from the village patriarchy.

The fourth article, by Soma Dutta (this *IDS Bulletin*), provides a case study of an intervention to develop women's enterprises in the

clean energy sector. ENERGIA's Women's Economic Empowerment (WEE) programme, running since 2014, has supported more than 4,000 women in the clean energy business, delivering energy products and services to 2.9 million customers. Like the trial in the previous article, the WEE experience challenges the female underperformance hypothesis, showing that women entrepreneurs are effective in last-mile distribution of modern energy solutions through their social networks. Echoing Shankar, Elam, and Glinski (this *IDS Bulletin*), WEE shows the value of bundled services supporting women entrepreneurs, such as technology and business skills upgrading, empowerment and agency building, sustained mentorship support and trust-based one-to-one selling approaches. However, the article argues that an approach focusing only on the individual entrepreneur is insufficient for women to thrive. An ecosystem approach that places equal emphasis on the enabling environment and the entrepreneur is more likely to deliver sustainable results. The programme's outcomes were visible for both entrepreneurs and users. Entrepreneurs showed consistent growth in profit margins, repayment of loans, feelings of empowerment, and higher involvement in major household or business purchase decisions. Furthermore, users in communities where women were supported with the WEE programme showed more trust in the products and suppliers, and a higher willingness to pay for solar lamps or improved cookstoves.

The final article, by Annemarije Kooijman-van Dijk (this *IDS Bulletin*), highlights wider findings and policy implications from the nine research projects of ENERGIA's Gender and Energy Research Programme. One such finding is that energy demands are not necessarily met equitably for men and women, even when energy supply is physically available. These gendered differences are evident not only in households, but also in income generation in agriculture and in non-farm activities. The article also reflects on aspects of research design for influencing policy, concluding that, in the ENERGIA Gender and Energy Research Programme, multimethod and multidisciplinary approaches have been essential in developing insights into mechanisms and factors at play and that the perspective of local women and men is needed to reflect the dynamic local reality of power relations and norms.

This *IDS Bulletin* allows us to better understand the gender and energy nexus and to go one step ahead of the existing literature on the topic, stressing the role of women in the supply chain. The issue aims at an audience of international policymakers working for the SDGs, national governments, departments of energy, gender or economic development, energy supply businesses, non-governmental organisations (NGOs,) advocacy organisations, civil society organisations, and academic audiences. The issue, however, shows only a glimpse of the extensive research that took place as part of the Gender and Energy Research Programme. We invite our readers to further explore the rich evidence that was gathered and to engage with the ENERGIA network of research and practice.

Notes

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2 www.energia.org/research/gender-energy-research-programme/

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